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A NEW GOSSYPIMUM FROM THE CAPE VERDE ISLANDS

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DURING the course of our investigations on the evolution and distribution of diploid and tetraploid cotton,³ we have gradually assembled living collections of the wild and cultivated species of the genus *Gossypium*. Through the efforts of Dr. Thomas Kerr, Cotton Branch, Agricultural Research Service, United States Department of Agriculture and of Director Professor A. Quintanilha and Ing. L. A. Grandvaux Barbosa of Centro de Investigação Científica Algodoeira, Moçambique, we received in 1961 a packet of seed collected by Mr. Barbosa on one of the Cape Verde Islands, where he had been asked to look for *G. capitis-viridis* Mauer, an endemic species known only from the type collection. From these, one plant was grown in a greenhouse at Raleigh, and it soon became evident that we had neither *G. capitis-viridis* nor any other known species of the genus. In recognition of Mr. Barbosa's special effort to find this unusual *Gossypium* material, we name the species for him.

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Gossypium Barbosanum *Phillips & Clement* sp.
nov.

Frutex perennis, erectus, usque ad 2 m. altus, cum ramis paucis, gracilibus, patentibus; rami frugiferi uni-vel biarticulati. Folia in lobos quinque ad septem ovato-ellipticos profunde divisa, cum nectario subtus in nervo medio. Corolla infundibuliformis, fulva cum macula purpurea in dimidio inferiore. Calyx post anthesin marcescens, cum bracteolis linearibus in lobos lanceolatos tres vel quattuor divisis. Capsula circiter duplo longior quam latior, rostellata, tri- vel quadrilocularis, glandulis atris prominentibus maculata. Semina circiter duplo longiora quam latiora, atrofulva, glabra, stratu unico fibrarum fulvarum circiter 6 mm. longarum oblecta.

TYPE: Plant grown in greenhouse, North Carolina State College, Raleigh, North Carolina, from seed collected by L. A. G. Barbosa at Monte do Trigo, near Tarrafal, Ilha de Santo Antão, Cape Verde Islands. *Phillips & Clement 891* (U.S. Nat. Herb.; Econ. Herb. Oakes Ames).

Upright perennial shrub 1–2 m. tall; branches slender, flexuous, spreading, becoming glabrate in age, the young twigs dotted with darkly pigmented glands, strigose; petioles 3–4 cm. long, sparsely strigose; leaves ca. $\frac{7}{8}$ cut into 5–7 ovate-elliptic lobes, stellate-pubescent above and below, an elongate-elliptic nectary on mid-vein 2–3 mm. long; fruiting branches usually 1–2 jointed; pedicels 1–2 cm. long, gland-dotted, strigose; corolla funnel-form, petals cream with a magenta spot covering lower half, sparsely gland-dotted over entire surface but glands more numerous along one side, stellate-pubescent on portion exposed in bud; staminal column ca. 1 cm. long, 0.5 cm. wide, antheriferous throughout, unpigmented; style projecting $\frac{1}{2}$ length of androecium above uppermost anthers, sparsely gland-dotted, stigmas united to top; calyx cupulate, minutely stellate-pubescent, gland-dotted,

8–10 mm. long, tube ca. 5 mm. long, lobes 3–5 mm. long, deltoid, subequal, entire calyx becoming necrotic following formation of an abscission layer at its base shortly after anthesis; bracteoles narrow, stellate-pubescent, gland-dotted, $\frac{1}{2}$ – $\frac{2}{3}$ cleft into 3–(4) lanceolate lobes, subtended by a nectary; capsules about twice as long as broad, glabrous, acuminate beaked, 3–4 locular, dotted with prominent darkly-pigmented glands, sutures forming partial, false septa at base and bearing a few long hairs above, ovules 4–6 per locule; seeds ca. twice as long as broad, covered with a single layer of brown fibers ca. 6 mm. long; seed coat dark-brown, smooth.

The affinities of *G. Barbosanum* are with the species of Section *Anomala*, which contains the botanically well-known *G. anomalum* Wawra and Peyr. and *G. triphyllum* Hochreutiner, as well as *G. capitis-viridis*, known only from the type specimen (which we have not seen). The major differences between the species of Section *Anomala* are indicated in Table I. Characteristics for *G. capitis-viridis* are taken from the type description, those for the other species from living material.

One *G. Barbosanum* characteristic is worthy of special note since it distinguishes this species from all other species of *Gossypium*. Shortly after anthesis, an abscission layer forms at the base of the calyx, leading to its gradual and progressive necrosis; by the tenth day after anthesis the calyx is completely necrotic.

The gametic chromosome number of *G. Barbosanum* is 13, the basic number of all the known diploid species of the genus.

On the basis of comparative cytology (Beasley, 1942), each species of *Gossypium* is assigned to one of six genome groups (A, B, C, D, E, or AD); *G. anomalum* and *G. triphyllum* have thus been assigned to the B genome group as B₁ and B₂, respectively. Preliminary cytologi-

TABLE I
Comparison of the Species of Section Anomala

	<i>G. anomalum</i>	<i>triphyllum</i>	<i>Barbosanum</i>	<i>capitis-viridis</i>
Plant pubescence	usually villous	short tomentose	sparsely strigose	sparsely strigose
Climax leaf shape	3/4-4/5 cut into 3-5 ovate lobes	3-foliolate, leaflets sublinear	7/8 cut into 7 ovate-elliptic lobes, mid-lobe usually secondarily lobed	unknown no. (prob. 4-5) ovate lobes
Foliar nectaries	3	1	1-3	3
Bracteole shape	entire to 3-4 toothed	entire	3(4) teeth, one-half to two-thirds cleft	2-3 toothed
Corolla	cream, occasionally with magenta flush	cream with lavender flush	cream	yellow
Petal spot	large	large	large	absent
Capsule locule no.	usually 3-locular	3-locular	3-4 locular	5-locular

PLATE XXXVII



Upper left: Flowers at anthesis, nearest bracteole removed ($\times 1$). Upper right: Same flower, partially dissected ($\times 1$). Lower: Two typical climax leaves ($\times 2/3$).

cal analyses of *G. Barbosanum* \times *G. anomalum* hybrids indicate a close homology between the chromosomes of the two species, and *G. Barbosanum* is therefore assigned the genome symbol B₃.

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LITERATURE CITED

- Beasley, J. O., 1942. Meiotic chromosome behavior in species, species hybrids, haploids, and induced polyploids of *Gossypium*. *Genetics* 27 : 25-54.



Portion of flowering branch ($\times 1.6$).